

## **ABSTRACT**

A method of joining optical fiber preforms is disclosed wherein the optical fiber preforms are butt-welded by heating the opposing endfaces of the preforms with a heat source comprising an electric arc formed across a gap between the opposing endfaces, the electric arc being formed between at least two opposing electrodes, and thereafter contacting the opposing endfaces to join the preforms and form an elongated optical fiber preform. The elongated optical fiber preform may then be drawn into an optical fiber. Also disclosed is an apparatus for joining optical fiber preforms, and an optical fiber draw tower including the joining apparatus.